

ABSTRACT

CLUTCH FOR ROTARY POWER TOOL AND ROTARY POWER TOOL INCORPORATING SUCH CLUTCH

An external surface of a spindle is formed with tapering grooves which become narrower in a direction towards the forward end of the spindle. A slider sleeve is provided with splines which also taper in a forward direction. In this way, the slider sleeve is prevented from rotating relative to the spindle, but can slide axially. A rearward end of the slider sleeve includes a recess containing an elastomeric O-ring. When the drive torque exceeds a predetermined threshold, inclined surfaces of the mutually engaging teeth on the spindle drive gear and slider sleeve slide over each other, as a result of which the drive gear slides forwardly along the slider sleeve against the action of a spring. The spindle drive gear can then rotate relative to the slider sleeve and the cooperating sets of teeth ratchet over each other, preventing spindle drive gear from rotating the spindle.

[Figure 2]